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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,381	06/02/2000	David E. Green	2130	7037
25280	7590	09/26/2005	EXAMINER	
MILLIKEN & COMPANY PO BOX 1926 SPARTANBURG, SC 29303			WACHTEL, ALEXIS A	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/586,381	GREEN ET AL.	
	Examiner	Art Unit	
	Alexis Wachtel	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 April 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 29-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 29-48 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 4-11-02.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Detailed Action

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29-31,33-41,43-48 rejected under 35 U.S.C. 103(a) as being

unpatentable over US 5,981,063 to Yokozeki et al and US 6,149,927 to Ghosh.

With respect to claim 29, Yokozeki et al teaches a treated substrate comprising a finish comprising a) compounds selected from the group consisting of metal particle-containing compounds, metal ion-containing compounds, metal-ion generating compounds, and any combinations thereof (Col 2, lines 49-52); (Col 3, lines 1-13), and b) at least one binder material (Col 3, lines 40-43).

a substrate selected from the group consisting of a yarn, a fabric comprised of individual fibers (Col 3, line 45), and a film;

wherein said finish is adhered to at least one portion of the surface of said substrate;

wherein said at least one portion of said treated substrate retains at least about 50% of said adhered to finish after 10 washes as performed in accordance with the wash procedure of MTCC Test Method 130-1981;

wherein said treated substrate is electrically non-conductive;

wherein if said metal is zinc, then at least one hydrophilic binder compound at least one hydrophobic binder compound are present adhering said zinc compound to said substrate, and wherein said finish exhibits antimicrobial properties.

With respect to claim 29, Yokezki et al and Ghosh do not teach that the claimed binder material is selected from the group consisting of melamine formaledehyde resins, acrylic resins, permanent press resins, pvc/vinyl chloride copolymers, ethoxylated polyester, and mixtures thereof. Ghosh is directed to biocidal compositions (Abstract) and teaches that nets (Col 7, lines 5-7) can be used in conjunction with a biocide and binder. In particular, Ghosh identifies conventional binders suitable for binding a biocidal composition to a fiber net as polyvinyl chloride and acrylic resins (Col 7, lines 18-28). Since both Ghosh and Yokezki et al recognize the utility of employing a binder for the purpose of affixing a biocidal composition to a fiber susbtrate, it would have been obvious to one of ordinary skill to have used a binder made of pvc or acrylic resin with the biocide composition disclosed by Yokezki et al.

With respect to claim 29, although Yokozeki et al and Ghosh do not explicitly teach that at least one portion of said treated substrate retains at least about 50% of said adhered to finish after 10 washes as performed in accordance with the wash procedure of MTCC Test Method 130-1981, said limitations are expected from the combined disclosure of Yokozeki et al and Ghosh. Support for said presumption is found in the use of similar materials (i.e. a substrate coated with a metal ion generating compound and the use of the claimed binder) and in the similar production steps (i.e. a substrate, a metal ion generating compound, and binder) used to produce the treated

substrate. The burden is upon the Applicant to prove otherwise. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103.

With respect to claim 30: wherein said substrate is an individual yarn (Yokozeki et al, Col 3, line 45).

With respect to claim 31: wherein said substrate is a textile fabric (Yokozeki et al, Col 3, line 45).

With respect to claim 33: wherein said finish comprises metal particles (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 34: wherein said finish comprises metal-ion generating compounds (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 35: wherein said finish comprises a metal selected from one of the transition metals (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 36: wherein said transition metal is selected from the group consisting of silver and zinc (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 37: wherein said finish comprises a metal selected from one of the transition metals (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 38: wherein said transition metal is selected from the group consisting of silver and zinc (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 39, Yokzeki et al teach a treated substrate comprising a non-electrically conductive treatment comprising a) metal-containing compounds selected from the group consisting of metal particle-containing compounds, metal ion-containing compounds, and any combinations thereof (Col 2, lines 49-52); (Col 3, lines 1-13), and b) at least one binder material (Col 3, lines 40-43).

and a substrate selected from the group consisting of a yarn, a fabric comprised of individual yarns, and a film; wherein said non-electrically conductive treatment is adhered to at least a portion of the surface of said substrate;

With respect to claim 39, Yokezeki et al do not teach that the claimed binder material is selected from the group consisting of melamine formaledehyde resins, acrylic resins, permanent press resins, pvc/vinyl chloride copolymers, ethoxylated polyester, and mixtures thereof. Ghosh is directed to biocidal compositions (Abstract) and teaches that nets (Col 7, lines 5-7) can be used in conjunction with a biocide and binder. In particular, Ghosh identifies conventional binders suitable for binding a biocidal composition to a fiber net as polyvinyl chloride and acrylic resins (Col 7, lines 18-28). Since both Ghosh and Yokezeki et al recognize the utility of employing a binder for the purpose of affixing a biocidal composition to a fiber susbtrate, it would have been obvious to one of ordinary skill to have used a binder made of pvc or acrylic resin with the biocide composition disclosed by Yokezeki et al.

With respect to claim 39, although Yokozeki et al and Ghosh do not explicitly teach that the treated substrate exhibits a) a log kill rate for *Staphylococcus aureus* of at least 1.5 and b) a log kill rate for *Klebsiella pneumoniae* of at least 1.5, both as tested in accordance with AATCC Test Method 100-1993 for 24 hour exposure, and c) retention of at least about 50% of said adhered to finish, all after at least 10 washes, said washes performed in accordance with the wash procedure as part of MTCC Test Method 130-1981, said limitations are expected from the combined disclosure of Yokozeki et al and Ghosh. Support for said presumption is found in the use of similar materials (i.e. a substrate coated with a metal ion generating compound and binder) and in the similar production steps (i.e. a substrate, a metal ion generating compound, and binder) used to produce the treated substrate. The burden is upon the Applicant to prove otherwise. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103.

With respect to claim 40: wherein said substrate is an individual yarn (Yokozeki et al, Col 3, line 45).

With respect to claim 41: wherein said substrate is a textile fabric (Yokozeki et al, Col 3, line 45).

With respect to claim 43: wherein said finish comprises metal particles (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 44: wherein said finish comprises metal-ion generating compounds (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 45: wherein said finish comprises a metal selected from one of the transition metals (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 46: wherein said transition metal is selected from the group consisting of silver and zinc (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 47: wherein said finish comprises a metal selected from one of the transition metals (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

With respect to claim 48: wherein said transition metal is selected from the group consisting of silver and zinc (Yokozeki et al, Col 2, lines 49-52); (Yokozeki et al, Col 3, lines 1-13).

3. Claims 32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,981,063 to Yokozeki et al in view of US 6,149,927 to Ghosh and US 5,849,311 to Sawan et al.

With respect to claims 32 and 42, while Yokozeki et al and Ghosh as set forth above teaches the use of fibers as a substrate, no disclosure is provided to teach the use of a film substrate. Sawan et al is directed to biocidal coatings (Abstract) and teaches that a free standing antimicrobial film may be formed (Col 5, lines 36-41). The film may be ground down to make an antimicrobial powder suitable for use in antimicrobial creams (Col 5, lines 57-67); (Col 6, lines 1-7). In view of this teaching it would have been obvious to one of ordinary skill to have employed the binder and

antimicrobial metal ion generating material disclosed by Yokozeki et al to make a film substrate that can be ground down to form an antimicrobial powder suitable for use in antimicrobial creams.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700